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# ESTABLISHMENT OF THE WORK PROGRAMME OF THE WORKING GROUP

## Issues for consideration in the establishment of the work programme

Note by the UNCTAD secretariat

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## INTRODUCTION

1. The United Nations Conference on Trade and Development at its eighth session has adopted the text entitled "A New Partnership for Development: The Cartagena Commitment". 1/ Part (IV)-C of the Cartagena Commitment on "Strengthening the technological capacities of developing countries" contains two main sub-sections (i) assessment, and (ii) measures and action. In its assessment, the Conference recognized that technology had increasingly become a determinant of the ability to participate in world trade in manufactures and services. It also identified technological capability as one of the fundamental factors for social and economic development and so emphasized policies and measures that stimulate technology flows to, and promote technological innovation in, developing countries, including the provision of adequate financial resources.

2. Pursuant to the Cartagena Commitment, the Trade and Development Board, on 7 May 1992, established an Ad Hoc Working Group on the Interrelationship between Investment and Technology Transfer and adopted its terms of reference. The Trade and Development Board envisaged that the Working Group "should provide a forum for the exchange of experiences among member States so as to enable them to draw appropriate lessons for the formulation and implementation of policies at the national and international levels and for international economic cooperation". 2/

## I. PRIORITY AREAS FOR CONSIDERATION: SOME SUGGESTIONS

3. The Working Group may wish, on the basis of the terms of reference, to formulate its work programme taking into account the accumulated experience on technology, investment and trade-related issues in UNCTAD and the work of other international and non-governmental organizations in this field, as well as contributions from the private sector. A background document reviewing the main issues on investment and technology transfer (UNCTAD/ITD/TEC/1) will be also before the meeting. It addresses the following broad questions:

- What factors affect the choice of a mode of technology transfer?
- Given the role of investment flows as a mode of technology transfer, what helps to determine the nature and directions of these flows?
- What is the contribution of transfer of technology by this mode to local capability development?
- How does the acquisition of technological capabilities affect comparative advantage in trade, in particular the competitiveness of developing countries?

4. The present note, bearing in mind the issues reviewed in the background paper, has been prepared with a view to assisting the Working Group in defining its Work Programme and determining priority areas for consideration.

## A. The policy environment

5. The examination of the interrelationship between investment and technology transfer would entail the analysis of the different modes of investment-related transfer of technology, including the classical and most packaged form, namely foreign direct investment, as well as new forms such as joint ventures, licensing arrangements, management contracts, subcontracting. The work could identify, through analysis at the firm level in specific sectors, the opportunities and challenges which these different modes present, particularly for the technological advancement of developing countries and countries in transition. Such an examination could also encompass the specific problems that firms from the least developed countries face in acquiring foreign technologies and building up their technological capabilities. In addition, the sharing of experiences among firms from countries at different levels of development could help to shed further light on these interrelationships and their policy implications.

6. The contribution of foreign direct investment to the transfer of technology, including organizational technology, has varied from country to country and sector to sector. Hence, there is the need to see how and under what national and international policy environment foreign direct investment (FDI) contributes to technology transfer and development of technological capabilities. Work in this area could identify the main elements that FDI brings to the host country for its technological development and greater production efficiency, including the role of education and training, better utilization of technology at the workplace, as well as for new work organization and management practices. It may also be useful to analyse the nature of the interaction between the domestic and foreign investment components and to explore ways of improving the contribution of FDI to the transfer of technology and accumulation of technological capabilities.

7. The new perceptions of the role of technology as a source of competitiveness in international markets may have made those firms which are innovative and have the capacity to invest more sensitive to the legal environment and to intellectual property protection. This is particularly so in the areas where research and development (R & D) is more intensive. Sectoral and country studies in which an analysis is made of the interrelationships between intellectual property rights (IPRs), on the one hand, and foreign direct investment, transfer of technology and technological capability-building, on the other could be very useful in this regard. Moreover, given the characteristics of the innovation process, the role of intellectual property would need to be examined in terms of the various facets of the process and taking into account the different IPR categories (e.g. patents, trademarks, utility models, etc.) and different approaches for the levels and breadth of intellectual property protection, with a view to gaining a better understanding of its contribution to increasing investment flows, development of technological activities, including those of an incremental and adaptative nature, and the accumulation of technological capabilities. In this respect, the examination of the practical experience of developed countries in the use and administration of new intellectual protection mechanisms and their effects on technology innovation may be of particular relevance to developing countries.

8. In addition to intellectual property rights, it would be useful to explore how other instruments hinder or facilitate the acquisition, domestic absorption and diffusion of technology through investment. An investigation of the possible roles of investment statutes and administrative structures and procedures, including incentives would be particularly valuable in view of a more limited body of feasible policy instruments compatible with recent economic liberalization trends.

## B. Role of economic agents

9. Different actors, including private enterprises, Governments and international organizations play different roles in the generation, diffusion and absorption of technology. For investment and technology policies to be effective, there is first a need to examine the roles of these actors and the nature of their interactions. Equally important is the need to analyse the ways and extent to which these actors contribute to increasing investment flows, including investment in R & D and training and development of technological capabilities. In addition, an analysis of firm strategies and existing modes of cooperation between home and host countries' enterprises on investment in R & D, innovation and adaptation of technology could help to shed further light on these issues and promote the establishment of collaborative arrangements for R & D among firms from both developed and developing countries.

## C. Technological change, trade competitiveness and structural adjustment

10. The acceleration of technological change brought about by the emergence of new technologies has given rise to trade and investment-related issues which have major implications for sustainable development in all countries, in particular developing countries and countries in transition to a market economy. Little is known about how technological change influences investment decisions, production patterns, trade competitiveness and innovative capabilities. The consideration of these issues, through sectoral studies, would help to identify the implications of technological change for the international location of production and its effects on structural change and export composition, trade competitiveness and national capacities for innovation and adaptation. The opportunities and challenges resulting from rapid technological change would have to be assessed taking into account the diversity of countries' situations.

11. Investment flows, domestic and foreign, as well as the process of accumulating domestic technological capabilities are heavily influenced by structural adjustment programmes. Various economic alternatives due to structural adjustment policies compound the difficulty of achieving coherence among trade, investment, industrial and technological objectives. The Working Group could discuss and define the problems that structural adjustment programmes might pose in stimulating investment flows and enhancing mastery over imported and locally generated technology.

## D. The process of technological capability-building

12. In its review and analysis of national and international policies on investment and technology transfer, the Working Group may wish to concentrate on problems of building up and strengthening competitive technological capabilities, particularly those of developing countries, through the investment process, namely foreign direct investment. Country studies could be undertaken paying particular attention to national policies aimed at capability-building, including examination of relevant government policies and instruments used in the implementation of such policies; criteria for, forms and methodology of government interventions compatible with trade and macroeconomic policies; role of infant industry protection and "exit criteria" (for withdrawal of support in cases of non-performance or, conversely, where industries have attained sufficiently high levels of efficiency and competitiveness to survive); a system of efficient incentives; support of venture capital; taxes and policies in the field of eduction, R & D, institutional infrastructure, etc. The purpose of this work would be to encourage countries to share their experience regarding policy-making in this area, including national decision-making and policy implementation structures. This could include a review of the extent to which such policies have helped to: stimulate investment flows, generate and diffuse technology and promote the accumulation of technological capabilities. The main elements contributing to the success or failure of these policies should be identified and discussed with a view to drawing lessons for the formulation of policies in this area and thus assist Governments in the selection of the most appropriate set of policies for specific situations.

13. In addition, specific policies and measures that could be undertaken by Governments and private-sector groups (particularly by associations of technology producers and exporters) of the developed countries could also be taken up by the Working Group. A set of public measures in the form of incentives, in particular support of venture capital, could be examined along with the activities of private companies aimed at strengthening domestic technological capacities.

## E. Technology indicators

14. The consideration of statistical data and methodologies relevant to analysing the performance of countries in technology capacity-building could be a timely exercise in this period of rapid technological change. Coherent methods are particularly needed for assessing technology flows, the development of technological capabilities and the role of technology in trade performance. The Working Group may wish to study the development of indicators for assessing performance in those areas.

## F. Environmentally-sound technologies

15. While there has been a growing recognition that the development and transfer of environmentally-sound technologies are essential components of a successful strategy for sustainable development, little is known about how to promote and facilitate their development and transfer on favourable terms, taking into account the need to protect the interests of both producers and consumers. Work in this area would aim at: (i) identifying the issues

involved in the interlinkages between environment and technology; (ii) examining effective modalities for favourable access to, and transfer of, environmentally-sound technologies, particularly to developing countries, while providing fair incentives to innovators that promote R & D of these technologies; (iii) considering the possibility of elaborating additional financial schemes and mechanisms which would help countries gain better access to resources for supporting the cost for developing, importing and improving these technologies; (iv) analysing the implications of environmentally-sound technology for international competitiveness; and (v) promoting the exchange of experiences among countries and encouraging new initiatives based on a genuine global partnership in support of sustainable development objectives.

### G. United Nations system-wide activities on investment-related technology issues

16. Pursuant to their mandates, different organizations of the United Nations system and some non-governmental organizations are in one way or another dealing with investment-related technology issues in their respective fields of competence. In order to allow it to sharpen the focus of its own work and benefit from work synergies in this field, the Working Group may wish to take into account the relevant activities of these organizations in specific areas to be determined. The work could entail a survey of these activities, including the issues and sectors covered, results achieved, different outputs generated and relevant governmental and non-governmental decisions adopted, and a description of future activities programmed or planned in selected areas.

## II. WORK METHODS AND APPROACHES

17. In the preparation of its future sessions, the Working Group may wish to make maximum use of the different actors and parties involved in decisions and policies on investment and technology transfer and development, including especially Governments and enterprises. The purpose would be to encourage wide participation by those mainly concerned. This would allow the Working Group to understand the issues, priorities and motivations of different actors whose behaviour may directly or indirectly affect investment in the transfer and development of technology. Interested Governments and/or national experts might consider transmitting to the Working Group national and sectoral studies on the relevant investment-related technology issues mentioned earlier and subsequently identified in the future Work Programme to be drawn up. For comparability of national experiences, the Working Group may wish to decide on the main themes of such studies, as well as the elaboration of unified outlines and questionnaires to help in the collection of comparable data, in addition to considering other guidelines for the conduct of work, including a timetable for the preparation of studies.

18. In addition, firms from developed and developing countries that have adjusted successfully to the new technological environment and engaged in foreign direct investment may be invited to address the Working Group on the subject of their experiences and strategies. In addition, the Working Group could invite representatives of non-governmental organizations and international institutions to elucidate some of these trade and investment-related technology issues.

19. The work of the UNCTAD secretariat will aim at providing effective support to the work of the Ad Hoc Working Group through the identification of issues calling for closer examination and through analytical work in predetermined areas in addition to the coordination of the different inputs that may be solicited from the various actors. In so doing, given the resource constraints, the secretariat would need to draw on related work carried out by intergovernmental organizations and other working groups in UNCTAD, as well as relevant organizations of the United Nations system, and such other international organizations as the Organisation for Economic Cooperation and Development, the European Economic Community and non-governmental organizations, including professional associations and the enterprise sector.

20. In the consideration of its future work, the Ad Hoc Working Group may wish to give an indication concerning the sequence of its activities; the timing of its future sessions; the provisional agenda and composition of the bureau of its second session; the inputs required from interested Governments and national experts; contributions from non-governmental organizations and other international organizations; the identification of areas in which technical cooperation should be strengthened and of areas that may require further investigation by expert groups. 3/

## Notes

1/ See UNCTAD document TD/364.

2/ Item 6 of the terms of reference of the Ad Hoc Working Group on the Interrelationship between Investment and Technology Transfer (TD/B/1323, Vol. II).

3/ Examples of complex areas that may require further study by expert groups or specific panels include: (i) the role of intellectual property protection in international investment and the transfer of technology and development of endogenous technological capabilities; (ii) implications of technological change for international competitiveness; and (iii) promotion of the development and transfer of environmentally-sound technologies.

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